

Sporekill®

Act No. 36 of 1947 / Wet Nr. 36 van 1947 • SA Reg. No. L7115 / NAM reg. No. N-AR 1063 / BWA Reg. No. W130911

**READ ATTACHED PACKAGED LEAFLET BEFORE USE
KEEP OUT OF REACH OF CHILDREN AND ANIMALS**

GROUP

NC

FUNGICIDE

PRODUCT INFO:

A soluble concentrate contact bactericide and fungicide for the control of various diseases under crops as listed.

PRODUK INFO:

'n Oplosbare konsentraat bakterisied en swamdoder vir die beheer van siektes by gewasse soos gelys.

HAZARD STATEMENTS:

Combustible liquid.
May be harmful if swallowed.
May be harmful in contact with skin.
Causes skin irritation.
Causes serious eye damage.
Harmful if inhaled.
Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:

Wear protective gloves, protective clothing, eye protection.
Avoid breathing mist and spray.



DANGER

Active Ingredient

**Didecyldimethylammonium chloride
(Quaternary ammonium compound)**

120 g/e

**Didesieldimetielammonium chloried
(Kwaternêre ammoniumverbinding)**

Net (ℓ) SEE CONTAINER

Registration Holder / Registrasiehouer



ICA International Chemicals (Pty) Ltd • Reg. No. 2001/013319/07
28 Planken Street • Plankenbrug Industrial • STELLENBOSCH • 7600 • SOUTH AFRICA
Tel. +27-21 886 9812 • www.icaonline.co.za

Batch No.
Date of Manufacture
Expiry Date

**SEE
CONTAINER**

Lot Nr.
Datum van Vervaardiging
Vervaldatum

In case of poisoning, call the following number: Human Poison Helpline +27-861 555 777

Emergency number: Griffon Poison Information Centre +27-82 446 8946

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SA Reg. No. L7115 / NAM Reg. No. N-AR 1063 / BWA Reg. No. W130911

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ACTIVE INGREDIENT:

Didecyltrimethylammonium chloride 120 g/l
(Quaternary ammonium compound)

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28 Planken Street • Plankenbrug Industrial • Stellenbosch • 7600 • South Africa
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WARNINGS

Combustible liquid
May be harmful if swallowed
May be harmful in contact with skin
Causes skin irritation
Causes serious eye damage
Harmful if inhaled
Very toxic to aquatic life with long lasting effects

WITHHOLDING PERIODS (Minimum number of days between last application and harvest):

- ▶ Carrots and Parsnips 3 days
- ▶ Cruciferous crops 14 days
- ▶ Cucurbit crops 2 days
- ▶ Grapes (wine) in tank mix with mancozeb 14 days
- ▶ Grapes (wine) in tank mix with copper fungicides 21 days
- ▶ Onion and Garlic 22 days
- ▶ Pomegranate 40 days
- ▶ Peppers, **with** postharvest SPOREKILL® application 7 days
- ▶ Peppers, **without** postharvest SPOREKILL® application 0 days
- ▶ Potatoes and Sweet Potatoes 7 days
- ▶ Stone fruit 82 days
- ▶ Strawberries 3 days
- ▶ Tomatoes, **with** postharvest SPOREKILL® application 3 days
- ▶ Tomatoes, **without** postharvest SPOREKILL® application 0 days

Compliance with these withholding periods and application methods will ensure that residues do not exceed local maximum residue limits (MRL) but may not meet the import requirements of other countries. If the crop to be treated is intended for export, consult the relevant importer or exporting body regarding the use of this product, MRL and recommended withholding periods. Although SPOREKILL® is regarded as crop-safe on most of the important cultivars, this does not mean that a more sensitive cultivar might be available in future. SPOREKILL® must be tested on new cultivars prior to usage over big areas.

RE-ENTRY INTERVAL: Do not enter treated area for one day after application, unless wearing protective clothing.

Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be efficacious under all conditions, because the action and effect thereof may be affected by factors such as abnormal climatic and storage conditions, quality of dilution water, compatibility with other substances not indicated on the label and the occurrence of resistance of the disease against the remedy concerned as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, and the environment or harm to man/animal or for lack of performance of the remedy concerned, due to failure of the user to follow the label instructions or to the occurrence of conditions, which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

PRECAUTIONS

If medical advice is needed: Have product container or label at hand.
Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking.
Avoid breathing mist and spray.
Wash hands and face thoroughly after handling. Do not touch eyes.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection - when handling concentrate.
IF SWALLOWED: Get medical help.
IF ON SKIN: Get medical help.
IF ON SKIN: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
DO NOT induce vomiting.
If skin irritation occurs: Get medical help.
Take off contaminated clothing and wash it before reuse.
In case of fire: Use dry chemical, CO₂, water spray or alcohol-resistant foam. to extinguish.
Collect spillage.

Store in a well-ventilated place.

Dispose of contents and container in accordance with national regulations.

TRIPLE RINSE THE EMPTY CONTAINER AS FOLLOWS: Containers must be completely emptied before being disposed of. Invert and shake empty containers thoroughly into the applicator to ensure the container is empty. Triple rinse the empty container with clean water equal to a minimum of 30 % of the volume of the container. Add rinsing to the contents of the spray tank. Offer container for recycling or puncture and dispose of at authorised landfill. Do not use container for any other purpose.

RELEVANT SUBSTANCES:

Didecyldimethylammonium Chloride (Cas no: 7173-51-5) Acute Oral Toxicity Category 4, H302; Skin Corrosion Category 1B, H314 (12 % w/v).

Isotridecanol, ethoxylated (Cas no: 69011-36-5) Aquatic Acute Category 1, H400; Aquatic Chronic Category 3, H412 (< 10 % w/v).

Ethanol (Cas no: 64-17-5) Flammable Liquid Category 2, H225 (< 10 % w/v).

FIRST AID MEASURES

In case of accident or if you feel unwell seek medical advice immediately and show this LABEL where possible.

- INHALATION:**
- Can cause respiratory corrosion/irritation. Remove the victim from immediate source of exposure. Move victim to fresh air and keep comfortable. If victim's breathing has stopped, perform artificial respiration.
 - DO NOT perform mouth-to-mouth resuscitation if victim ingested or inhaled the substance; wash face and mouth before giving artificial respiration. Use a pocket mask equipped with a one-way valve or other proper respiratory medical device.
 - Administer oxygen if victim's breathing is difficult or irregular and get medical help.
- SKIN:**
- Can cause skin irritation. Remove and isolate contaminated clothing, shoes, and leather goods immediately and take a shower.
 - Rinse affected areas (skin) immediately with non-abrasive soap or mild detergent and large amounts of running water. Wash contaminated clothing before reuse.
 - Get medical help if irritation develops and persists.
- EYES:**
- Can cause severe eye damage, burning of eyes. Rinse eyes IMMEDIATELY with clean running water for at least 15 minutes, while holding eyelids apart. Remove contact lenses after 5 minutes if present and easy to do.
 - Continue rinsing while holding eyelids apart. Seek medical help if irritation continues.
- INGESTION:**
- If swallowed, DO NOT induce vomiting, unless instructed to do so by poison control center or doctor.
 - Have person sip a glass of water if able to swallow. Never give anything by mouth to an unconscious person.
 - If vomiting does occur, keep on giving fluids. Get medical help.
- NOTE TO PHYSICIAN:**
- There is no specific antidote. All treatments should be based on observed signs and symptoms of distress in the patient.
- POTENTIAL HEALTH EFFECTS:**
- Effects of exposure (inhalation, ingestion, or skin contact) to substance may be delayed.

RESISTANCE WARNING

For resistance management, **SPOREKILL®** consists of a group code (**NC**) (Not specified) fungicide. Any fungal population may contain individuals naturally resistant to **SPOREKILL®** and other group code (**NC**) fungicides. The resistant individuals can eventually dominate the fungal population if these fungicides are used repeatedly. These resistant fungi may not be controlled by **SPOREKILL®** or any other group code (**NC**) fungicides.

To delay fungicide resistance:

- avoid exclusive repeated use of fungicides from the same fungicide group code. Alternate or tank mix with registered products from different fungicide group codes,
- for tank mixing or alternation with products in other fungicide group codes, refer to individual product labels,
- integrate other control methods (chemical, cultural, biological) into disease control programmes.

MODE OF ACTION

Didecyldimethylammonium chloride belongs to the FRAC group NC: Chemicals with not specified mode of action. Generally considered as a low-risk group, resistance not known at present.

USE RESTRICTIONS

SPOREKILL® compatibility with other agricultural chemicals can be influenced by factors such as dilution water quality and product formulations. It is therefore recommended to always first perform a physical compatibility test (jar test) prior to application. **SPOREKILL®** is generally incompatible with concentrated anionic agricultural chemicals.

DIRECTIONS FOR USE – use only as directed

MIXING INSTRUCTIONS:

- No wetter needs to be added since **SPOREKILL®** has wetting characteristics.
- The stability and efficacy of **SPOREKILL®** is not pH dependable. If used with other chemicals follow their pH recommendations.
- During postharvest wash of avocado, citrus, mango and tomato, fruit **must not be left** in dump tank for long periods. This may result in serious burning of sensitive fruit.
- Take note: **SPOREKILL®** controls postharvest decay in avocado, citrus, mango and tomato fruit induced by infections taking place during the washing process. The use of registered fungicides to control postharvest decay caused by orchard infections still need to be applied.
- **DO NOT** use **SPOREKILL®** in **hot water dump tanks**. This may result in serious burning of sensitive avocado, citrus, mango and tomato fruit.
- Under heavy agitation foam may develop. Use anti-foam product *Foam Fighter* if necessary.
- Shake concentrate before use.

APPLICATION TABLE			
CROP	DISEASE	DOSAGE PER 100 ℓ WATER	REMARKS
Apples and Pears Postharvest treatment	Postharvest decay caused by <i>Penicillium expansum</i> .	100 mℓ	Dip or drench fruit after harvest or regular atmosphere (R.A.) storage. Not for use after controlled atmosphere (C.A.) storage. For best results keep fruit wet for at least 10 minutes. Keep SPOREKILL® concentration at recommended rate by using “ SPOREKILL® Test Kit”.
Avocado Postharvest treatment	Anthraxnose, caused during washing process in dump tank by <i>Colletotrichum gloeosporioides</i> .	100 – 150 mℓ	Dip fruit for 3 – 5 minutes. Use higher rate under conditions conducive to high disease pressure. Keep SPOREKILL® concentration as recommended rate by using “ SPOREKILL® Test Kit”.
Carrots and Parsnips Pre-harvest foliar application	Powdery mildew (<i>Erysiphe heraclei</i>)	100 mℓ	Apply preventatively or when first disease symptoms are observed. Repeat with 7 – 10 day intervals, depending upon disease pressure. Apply as a high volume application at 300 – 500 ℓ spray mixture/ha depending on plant size. Ensure thorough coverage of all foliage.
Citrus Postharvest treatment	Green-, Blue mould and Sour rot, caused during washing process, by controlling dump tank, pre-degreening drench or high-pressure washing system borne <i>Penicillium digitatum</i> , <i>P. italicum</i> , <i>Galactomyces citri-aurantii</i> (<i>Geotrichum candidum</i>) including imazalil-resistant <i>Penicillium</i> populations.	100 – 150 mℓ	Dip fruit for 3 – 5 minutes as soon as possible after harvest. Use higher rate under conditions conducive to high disease pressure. Keep SPOREKILL® concentration at recommended rate by using “ SPOREKILL® Test Kit”.
Citrus Orchard application: (To reduce rates of copper and mancozeb applied to citrus orchards.) <i>NB. SPOREKILL® is not effective against Black and Alternaria Spot when used on its own.</i>	Black spot caused by <i>Phyllosticta citricarpa</i> (<i>Guignardia citricarpa</i>) AND Alternaria spot caused by <i>Alternaria alternata</i> .	Tank mix 100 mℓ PLUS 100 g mancozeb ^a OR 100 mℓ PLUS 100 g copper oxychloride ^a OR 100 mℓ PLUS 100 g copper hydroxide ^a [Do not use pH-buffers in tank mixtures containing copper fungicides]	Black spot Apply preventatively, four full cover sprays at 25 – 30 days intervals. Apply first application before 15 October. Ensure thorough coverage of both foliage and fruit surfaces. Alternaria Spot Commence high volume cover sprays at first flush and repeat every 30 days until harvest. The number of applications (up to 7) is dependent on weather conditions during February – April. In wet conditions, additional applications are necessary to inhibit further infections.
Citrus Trunk and branch treatment	Phytophthora trunk and Branch canker (<i>Phytophthora citrophthora</i>)	100 mℓ PLUS 200 g captab ^a	Apply after harvest directly to trunk and lower affected branches with handguns or knapsack by using 1 – 2 ℓ of spray mixture per tree. Do not spray onto fruit if present. Repeat treatment with 3 month intervals. Please Note: The disease will not be controlled on trees of which the trunks are already 60 % or more girdled by the pathogen.
Cruciferous Crops	Downy mildew (<i>Hyaloperonospora brassicae</i>)	100 mℓ	Apply SPOREKILL® preventively in 7-day intervals. Under high disease pressure, include a systemic fungicide into spray programme. Apply a minimum of 500 mℓ SPOREKILL® /ha. Ensure thorough coverage of both upper and lower leaf surfaces. Do not apply more than 5 times on the heads or flowerheads. Can be applied with registered copper containing fungicides in a tank mixture.
Cucurbit Crops Greenhouse & field produced (Only Western Cape for field produced cucurbits)	Powdery mildew (<i>Sphaerotheca fuliginea</i> and <i>Erysiphe cichoracearum</i>)	100 mℓ	Apply preventively at 7 – 12 day intervals. Under high disease pressure, spray every 7 days and include a systemic fungicide into programme. Ensure thorough coverage of both upper and lower leaf surfaces. Do not apply more than 4 times when fruit are present.
Grapevines Propagation material	Infection of grapevine propagation material by decline and dieback pathogens such as <i>Phaeoaniella chlamydaspora</i> , <i>Phaeoacremonium</i> , <i>Botryosphaeria</i> and <i>Phomopsis</i> spp.	150 mℓ	Rootstock and Scion cutting treatment Immediately after cutting preparation and pre-cold storage soak for 1 hour in SPOREKILL® solution. After cold storage one day prior to grafting soak for 10 minutes. This treatment can also be done in cool-down water following hot water treatment. Pre-Plant treatment After callus, directly prior to planting dip for 5 seconds in SPOREKILL® solution. General sanitation For disinfection of grafting equipment, tables, work surfaces, grafting sheds, callusing boxes, etc. For best results, first wash surfaces to remove dirt and then disinfect by keeping surfaces wet for 10 minutes.
Wine Grapes	Downy mildew caused by <i>Plasmopara viticola</i> .	Tank mix	Pre-blossom

(NB. SPOREKILL® is not effective against downy mildew when used on its own.)		100 mℓ PLUS 100 g mancozeb ^a OR 100 mℓ PLUS 250 g copper oxychloride ^a OR 100 mℓ PLUS 250 mℓ copper ammonium acetate ^a [Do not use pH-buffers in tank mixtures containing copper fungicides.]	Apply first spray when young shoots have reached length of 10 cm. Repeat with 7 – 10 day intervals, depending upon weather conditions. Apply as a high volume application at 500 – 700 ℓ spray mixture/ha. Blossom to 80 % calyx fall Apply only if the blossoming period is longer than 14 days. Apply as a high volume application at 750 – 1000 ℓ spray mixture/ha. Post blossom Apply two (2) more applications at 7 – 14 day intervals, depending upon weather conditions. Apply as a high volume application at 1000 – 1500 ℓ spray mixture/ha.
Mango Postharvest treatment	Anthracnose, caused during washing process in dump tank by <i>Colletotrichum gloeosporioides</i> .	100 – 150 mℓ	Dip fruit for 3 – 5 minutes. Use higher rate under conditions conducive to high disease pressure. Keep SPOREKILL® concentrations at recommended rate using “ SPOREKILL® Test Kit”.
Onion and Garlic	Purple blotch (<i>Alternaria porri</i>) AND <i>Botrytis</i> spp.	100 mℓ	Apply preventively in 7-day intervals. Under high disease pressure, include a systemic fungicide into spray programme. Apply a minimum of 500 mℓ SPOREKILL® /ha. Ensure thorough coverage of both upper and lower leaf surfaces. Do not apply more than 5 times.
Peppers	Powdery mildew (<i>Leveillula</i> sp.)	100 mℓ	Apply SPOREKILL® preventively in 7-day intervals. Under high disease pressure, include a systemic fungicide into spray programme. Apply a minimum of 500 mℓ SPOREKILL® /ha. Ensure thorough coverage of both upper and lower leaf surfaces. Do not apply more than 6 applications on fruit.
Peppers Postharvest treatment	Soft rot (<i>Pectobacterium carotovorum</i>), prevents infection of pepper fruit in the wash water.	100 mℓ	Apply for 3 minutes in the wash water. Keep SPOREKILL® concentration at recommended rate by using “ SPOREKILL® Test Kit”. Replace solution when water is dirty. Damaged fruit (cracks and holes) must not be treated.
Pomegranate	Botrytis grey mould (<i>Botrytis cinerea</i>)	100 mℓ	Apply SPOREKILL® preventively from flowering in 7-day intervals. Do not apply more than six applications per season on fruit. Will also suppress Alternaria.
Potatoes and Sweet Potatoes	Botrytis grey mould (<i>Botrytis cinerea</i>)	100 mℓ	Apply SPOREKILL® preventively in 7-day intervals. NB Start applications before canopy closure. Under high disease pressure, include a systemic fungicide into spray programme. Apply a minimum of 500 mℓ SPOREKILL® /ha. Ensure thorough coverage of both upper and lower leaf surfaces.
Seed Potato Tubers Pre-plant treatment	Bacterial rot caused by contamination of tubers, during the washing/dip treatment process, by controlling water borne <i>Pectobacterium</i> (<i>Erwinia</i>) spp.	150 mℓ	Dip tubers 3 – 5 minutes. Replace solution when water is too dirty. Treat only whole potato tubers. Keep SPOREKILL® concentration at recommended rate by using “ SPOREKILL® Test Kit”.
Stone Fruit	Peach leaf curl (<i>Taphrina deformans</i>)	100 mℓ <u>Spray Volume</u> 1200 – 3000 ℓ/ha	Apply SPOREKILL® preventively at 7-days intervals from bud swell until fruit set. Do not apply more than 5 times. Can be applied in a tank mixture with thiram 750 g/kg or registered copper containing fungicides.
Strawberries	Botrytis grey mould (<i>Botrytis cinerea</i>)	100 mℓ	Apply two (2) applications before harvest in 7-day intervals. Apply a minimum of 500 mℓ SPOREKILL® /ha. Ensure thorough coverage of leaf and fruit surfaces.
Tomatoes	Powdery mildew (<i>Leveillula taurica</i>)	100 mℓ	Apply SPOREKILL® preventively in 7-day intervals. Under high disease pressure, include a systemic fungicide into spray programme. Apply a minimum of 500 mℓ SPOREKILL® /ha. Ensure thorough coverage of both upper and lower leaf surfaces. Do not apply more than 4 applications on fruit. SPOREKILL® treatments can delay onset of Late Blight (<i>Phytophthora infestans</i>)
Tomatoes Postharvest treatment	Sour rot, caused during washing process in dump tank by <i>Geotrichum</i> sp.	150 mℓ	Dip fruit for 3 – 5 minutes. Keep SPOREKILL® concentration at recommended rate by using “ SPOREKILL® Test Kit”. Replace solution when water is too dirty.

^aOnly use those products together with **SPOREKILL®** that are registered for the particular claim.

Captab 500 g/kg WP

Mancozeb 800 g/kg WP

Copper oxychloride 850 g/kg WP

Copper hydroxide 770 g/kg WP

Copper ammonium acetate 316 g/ℓ SL

Thiram 750 g/kg

SpkISA/NAM/BOTACT36-017

SPOREKILL®

Wet Nr. 36 van 1947

SA Reg. Nr. L7115 / NAM Reg. Nr. N-AR 1063 / BWA Reg. Nr. W130911

'n Oplosbare konsentraat kontak bakterisied en swamdoder vir die beheer van verskeie siektes by gewasse soos aangedui.

AKTIEWE BESTANDDEEL:

Didesioldimetielammonium chloried 120 g/ℓ
(Kwaterneë ammoniumverbinding)

GEREGISTREER DEUR:

ICA International Chemicals (Pty) Ltd., Reg. Nr. 2001/013319/07
Plankenstraat 28 • Plankenbrug Industrieël • Stellenbosch • 7600 • Suid-Afrika
Tel. +27-21 886 9812 • www.icaonline.co.za

WAARSKUWINGS

Brandbare vloeistof
Mag skadelik wees indien ingesluk
Moontlik skadelik in aanraking met vel
Veroorsaak velirritasie
Veroorsaak ernstige oogskade
Skadelik indien ingeasem
Baie giftig vir waterlewende organismes met langdurige gevolge

ONTHOUDINGSPERIODES (Minimum aantal dae tussen laaste toediening en oes):

- ▶ Aarbeie 3 dae
- ▶ Aartappels en Soetpatats 7 dae
- ▶ Druive (wyn) in tenkmengsel met mankoseb 14 dae
- ▶ Druive (wyn) in tenkmengsel met koper swamdoders 21 dae
- ▶ Granate 40 dae
- ▶ Koolgewasse 14 dae
- ▶ Pampoengewasse 2 dae
- ▶ Rissies (soet), **met SPOREKILL®** na-oes behandeling 7 dae
- ▶ Rissies (soet), **sonder SPOREKILL®** na-oes behandeling 0 dae
- ▶ Steenvrugte 82 dae
- ▶ Tamaties, **met SPOREKILL®** na-oes behandeling 3 dae
- ▶ Tamaties, **sonder SPOREKILL®** na-oes behandeling 0 dae
- ▶ Uie en Knoffel 22 dae
- ▶ Wortels en Witwortels 3 dae

Nakoming van hierdie onthoudingsperiodes en toedieningsmetodes sal verseker dat die plaaslike maksimum residu limiete (MRL) nie oorskry word nie, maar mag dalk nie voldoen aan die invoervereistes van ander lande nie. Indien die gewas wat behandel word bestem is vir uitvoer, raadpleeg die betrokke in- of uitvoerder rakende die gebruik van hierdie produk, die MRL en aanbevole onthoudingsperiodes. Alhoewel **SPOREKILL®** as gewasveilig beskou word op die meeste belangrike kultivars, beteken dit nie dat 'n meer sensitiewe kultivar in die toekoms op die mark kan kom nie. **SPOREKILL®** moet eers op nuwe kultivars getoets word voordat dit oor groot areas aangewend word.

HERBETREDINGSINTERVAL: Moet nie behandelde area binnegaan vir een dag na toediening nie, tensy beskermende klere gedra word.

Alhoewel hierdie middel omvattend onder 'n groot verskeidenheid toestande getoets is, waarborg die registrasiehouer nie dat dit onder alle toestande doeltreffend sal wees nie, aangesien die werking en effek daarvan beïnvloed kan word deur faktore soos abnormale grond-, klimaats- en bergingstoestande, kwaliteit van verdunningswater, verenigbaarheid met ander produkte wat nie op die etiket aangedui is nie en die voorkoms van weerstand teen die betrokke middel, sowel as die metode, tyd en akkuraatheid van toediening. Verder aanvaar die registrasiehouer nie verantwoordelikheid vir skade aan gewasse, plantegroei, die omgewing of vir nadelige effekte op mens of dier of vir 'n gebrek aan doeltreffendheid, as gevolg van die versuim van die gebruiker om die etiketaanwysings na te kom of as gevolg van die ontstaan van toestande wat nie kragtens die registrasie voorsien kon word nie. Raadpleeg die verskaffer in geval van enige onsekerheid.

VOORSORGMATREËLS

Indien mediese advies benodig word, hou die produkhouer of -etiket byderhand.

Hou buite bereik van kinders.

Lees sorgvuldig en volg alle instruksies.

Hou weg van hitte, warm oppervlakte, vonke, oop vlamme en ander ontstekingsbronne. Rook verbode.

Vermyn inaseming van stuifsel en spuitstof.

Was hande en gesig deeglik na hantering. Moenie aan oë raak nie

Gebruik slegs buitenshuis of in 'n goed geventileerde area.

Vermyn vrystelling in die omgewing.

Dra beskermende handskoene/beskermende klere/oogbeskerming – wanneer konsentraat hanteer word.

INDIEN INGESLUK: Kry mediese hulp.

INDIEN OP VEL: Kry mediese hulp.

INDIEN OP VEL: Was met baie seep en water.

INDIEN INGEASEM: Neem slagoffer na vars lug en hou gemaklik vir asemhaling. Kry mediese hulp.

INDIEN IN OË: Spoel versigtig met water vir etlike minute. Verwyder kontaklense indien aanwesig en maklik om te verwyder. Hou aan met spoel.

Moet **NIE** vomering induseer nie.

Indien velirritasie of uitslag ontstaan: Kry mediese hulp.
Trek alle besoedelde klere uit en was dit voor hergebruik.
In geval van brand: Gebruik droë chemikalieë, CO₂, watersproei of alkoholbestande skuim om die brand te blus.
Maak stortsel bymekaar.
Berg in 'n goed geventileerde plek.
Raak ontslae van inhoud en houer volgens nasionale regulasies.

SPOEL DIE LEË HOUER DRIE MAAL SOOS VOLG: Die houers moet heeltemal leeg wees voordat daarvan onslae geraak kan word. Keer die leë houer om oor 'n meng- of spuittenk en laat vir tenminste 30 sekondes leegloop totdat die vloeï stadiger word tot 'n gedrup. Spoel die leë houer drie maal met skoon water gelyk aan 'n minimum van 30 % van die volume van die houer. Voeg spoelwater by die inhoud van die spuittenk. Bied houer aan vir herwinning of perforeer dit en raak daarvan ontslae by 'n gemagtigde opvulterrein. Moenie houer vir enige ander doel gebruik nie.

RELEVANTE STOWWE:

Didesieldimetiëlammonium chloried (Cas no: 7173-51-5) Akute Giftigheid Mondelings Kategorie 4, H302; Velirritasie/- korrosief Kategorie 1B, H314 (12 % m/v).
Isotridekanol, ethoxylated (Cas no: 69011-36-5) Waterlewend Akut Kategorie 1, H400; Waterlewend Kronies Kategorie 3, H412 (< 10 % m/v).
Etanol (Cas no: 64-17-5) Vlambare Vloeistof Kategorie, H225 (< 10 % m/v).

NOODHULPBEHANDELING

Ingeval van 'n ongeluk of as u onwel voel, verkry mediese hulp dadelik en wys ETIKET indien moontlik.

- INGEASEM:**
- Kan respiratoriese korrosie/irritasie veroorsaak. Neem die slagoffer weg van die onmiddellike bron van blootstelling. Verskuif die slagoffer na vars lug as dit veilig gedoen kan word en hou gemaklik. Indien die slagoffer ophou asemhaal, pas kunsmatige asemhaling toe.
 - MOENIE mond-tot-mond-asemhaling toepas indien die slagoffer die stof opgeneem of ingeasem het nie; was gesig en mond voordat kunsmatige asemhaling toegepas word. Gebruik 'n sakmasker toegerus met 'n eenrigtingklep of ander geskikte mediese asemhalingtoestel.
 - Dien suurstof toe as die slagoffer se asemhaling moeilik of onreëlmatig is. Kry mediese hulp.
- VEL:**
- Kan velirritasie veroorsaak. Verwyder en isoleer besmette klere, skoene en leergoedere dadelik en gaan stort.
 - Spoel aangetaste areas (vel) onmiddellik met nieskurende seep of sagwerkende wasmiddel en groot hoeveelhede lopende water. Was besmette klere voor hergebruik.
 - Kry mediese hulp indien irritasie ontwikkel en voortduur.
- OË:**
- Kan ernstige oogskade, brand van oë veroorsaak. Spoel oë ONMIDDELLIK met skoon lopende water vir tenminste 15 minute terwyl die ooglede vanmekaar gehou word. Verwyder kontaklense na 5 minute indien aanwesig en maklik om te doen.
 - Hou aan met spoel terwyl ooglede vanmekaar gehou word. Kry mediese hulp indien irritasie voortduur.
- OPNEMING:**
- Indien ingesluk MOENIE vomering aanmoedig nie, tensy deur 'n gifbeheersentrum of dokter aangesê word om dit te doen.
 - Laat persoon slukkies van 'n glas water neem indien in staat om te sluk. Moet nooit iets per mond aan 'n bewustelose persoon toedien nie. Kry mediese hulp.
 - Indien vomering plaasvind, hou aan vloeistowwe gee. Kry mediese hulp.
- NOTA AAN GENEESHEER:**
- Daar is nie 'n spesifieke teenmiddel nie. Alle behandeling moet gebaseer word op waargenome tekens en simptome van nood by die pasiënt.
- MOONTLIKE GESONDHEIDSGEVOLGE:**
- Gevolge van blootstelling (inaseming, opneming of velkontak) aan stof kan vertraag wees.

WEERSTANDSWAARSKUWING

Vir weerstandsbestuur, **SPOREKILL®** is 'n groeppode (NC) (nie gespesifiseer) swamdoder. Enige swam populasie mag individue insluit wat 'n natuurlike weerstand teen **SPOREKILL®** of enige ander groeppode (NC) swamdoders het. Indien hierdie swamdoders herhaaldelik aangewend word, kan die weerstandbiedende individue uiteindelik die swampopulasie oorheers. Hierdie weerstandbiedende swamme sal waarskynlik nie deur **SPOREKILL®** of enige ander groeppode (NC) swamdoders beheer word nie.

Om weerstand teen swamdoders te vertraag:

- ▶ vermy die eksklusiewe herhaaldelike gebruik van swamdoders met dieselfde groeppode. Wissel af met, of gebruik tenkingsels van produkte in verskillende swamdoder groeppodes,
- ▶ raadpleeg toepaslike individuele produketikette wanneer daar afgewissel word, of tenkingsels gemaak word, met produkte in ander swamdoder groeppodes,
- ▶ integreer ander beheermaatreëls (chemies, verbouing, biologies) in swamdoderprogramme.

WERKINGSWYSE

Didesieldimetiëlammonium chloried behoort aan die FRAC-groep NC: Chemikalieë met 'n nie gespesifiseerde werkingswyse. Oor die algemeen beskou as 'n lae-risiko groep, waar weerstand nie tans bekend is nie.

GEBRUIKSBEPERKINGS

SPOREKILL® se verenigbaarheid met ander landbou chemiese produkte kan beïnvloed word deur faktore soos verdunningswater kwaliteit en produk formulasies. Dit word daarom aanbeveel dat 'n fisiese verenigbaarheid toets altyd eers uitgevoer word voor vermenging. **SPOREKILL®** is in die algemeen nie verenigbaar met gekonsentreerde anioniese chemiese middels nie.

GEBRUIKSAANWYSINGS – gebruik slegs soos aangedui

MENGINSTRUKSIES:

- Geen benatters hoef bygevoeg te word nie, **SPOREKILL®** beskik oor sy eie benatting eienskappe.
- Die stabiliteit en werking van **SPOREKILL®** is nie pH afhanklik nie. Indien saam met ander chemiese middels gebruik word volg hierdie middels se pH aanbevelings.
- Tydens na-oes behandeling van avokado, mango, sitrus en tamatie moet vrugte nie vir lang periodes in dompeltenk gelaat word nie. Dit kan brandskade van sensitiewe vrugte veroorsaak.

- Let wel, **SPOREKILL®** beheer na-oes bederf van avokado, mango, sitrus en tamaties veroorsaak deur infeksies wat tydens die wasproses plaasvind. Die gebruik van geregistreerde swamdoders vir die beheer van na-oes bederf as gevolg van boord infeksies moet nog steeds toegepas word.
- Moenie **SPOREKILL®** in warmwater-dompeltenke gebruik nie. Dit kan brandskade aan sensitiewe avokado, mango, sitrus en tamatie vrugte veroorsaak.
- Tydens hewige vermenging kan oormatige skuim vorm. Gebruik anti-skuimprodukt "Foam Fighter" indien nodig.
- Skud konsentraat voor gebruik.

TOEDIENINGSTABEL			
GEWAS	SIEKTE	DOSIS PER 100 ℓ WATER	OPMERKINGS
Aarbeie	Botrytis grys-skimmel (<i>Botrytis cinerea</i>)	100 mℓ	Dien twee (2) aanwendings, in 7 dae intervalle, toe voor oes. Dien 'n minimum van 500 mℓ SPOREKILL® /ha toe. Verseker deeglike bedekking van loof en vrug oppervlaktes.
Aartappels en Soetpatats	Botrytis grys-skimmel (<i>Botrytis cinerea</i>)	100 mℓ	Dien SPOREKILL® voorkomend toe, met intervalle van 7 dae. NB Begin bespuitings voor die rye toe maak. Onder toestande van hoë siektedruk, sluit 'n sistemiese swamdoder in die spuitprogram in. Dien 'n minimum van 500 mℓ SPOREKILL® /ha toe. Verseker deeglike bedekking van loof, bo-, sowel as onderkant van blare.
Saadaartappels Voor-plantbehandeling	Bakteriese vrot en kontaminasie van saadaartappelmoere, wat tydens die was- of dompel-behandeling proses veroorsaak word, deur <i>Pectobacterium (Erwinia) spp.</i>	150 mℓ	Doop moere vir 3 – 5 minute. Vervang oplossing sodra baie vuil is. Slegs vir behandeling van heel aartappelmoere. Hou SPOREKILL® konsentrasie soos aanbeveel deur gebruik te maak van " SPOREKILL® Test Kit".
Appels en Pere Na-oes behandeling	Na-oes bederf veroorsaak deur <i>Penicillium expansum</i> .	100 mℓ	Doop of drenk vrugte ná oes of na gewone atmosfeer (G.A.) opberging. Nie vir gebruik na beheerde atmosfeer (B.A.) opberging nie. Hou vrugte nat vir tenminste 10 minute vir beste resultate. Hou SPOREKILL® konsentrasie soos aanbeveel deur gebruik te maak van " SPOREKILL® Test Kit".
Avokado Na-oes behandeling	Antraknose, veroorsaak tydens wasproses in dompeltenke deur <i>Colletotrichum gloeosporioides</i> .	100 – 150 mℓ	Doop vrugte vir 3 – 5 minute in dompeltenk. Gebruik hoër dosis onder toestande wat lei tot hoë siektedruk. Hou SPOREKILL® konsentrasie soos aanbeveel deur gebruik te maak van " SPOREKILL® Test Kit".
Granate	Botrytis grys-skimmel (<i>Botrytis cinerea</i>)	100 mℓ	Dien SPOREKILL® voorkomend toe vanaf blom, met intervalle van 7 dae. Moenie meer as ses toedienings op 'n seisoen se vrugte toedien nie. Sal ook <i>Alternaria</i> onderdruk.
Koolgewasse	Donsige meeldou (<i>Hyaloperonospora brassicae</i>)	100 mℓ	Dien SPOREKILL® voorkomend toe, met intervalle van 7 dae. Onder toestande van hoë siektedruk, sluit 'n sistemiese swamdoder in spuitprogram in. Dien 'n minimum van 500 mℓ SPOREKILL® /ha toe. Verseker deeglike bedekking van loof, bo-, sowel as onderkant van blare. Moenie meer as 5 keer op koppe of blomkoppe toedien nie. Kan saam met 'n geregistreerde koper bevattende fungisied in 'n tenk mengsel toegedien word.
Mango Na-oes behandeling	Antraknose, veroorsaak tydens wasproses in dompeltenke deur <i>Colletotrichum gloeosporioides</i> .	100 – 150 mℓ	Doop vrugte vir 3 – 5 minute in dompeltenk. Gebruik hoër dosis onder toestande wat lei tot hoë siektedruk. Hou SPOREKILL® konsentrasie soos aanbeveel deur gebruik te maak van " SPOREKILL® Test Kit".
Pampoengewasse Tunnel- en veld produksie (<i>Slegs in Wes-Kaap vir veld produksie</i>)	Poeieragtige meeldou (<i>Sphaerotheca fuliginea</i> & <i>Erysiphe cichoracearum</i>)	100 mℓ	Dien voorkomend toe met 7 – 12 dae spuit intervalle. Onder hoë siektedruk spuit elke 7 dae en sluit sistemiese swamdoder in by program. Verseker deeglike bedekking van bo-, sowel as onderkant van blare. Moet nie SPOREKILL® meer as 4 keer toedien sodra vrugte teenwoordig is nie.
Sitrus Na-oes behandeling	Groen- en Blouskimmel asook Suurvrot, veroorsaak tydens wasproses in dompeltenke, voor-ontgroening-drenk en hoëdruk-sirkulasietenke deur <i>Penicillium digitatum</i> , <i>P. italicum</i> , <i>Galactomyces citri-aurantii</i> (<i>Geotrichum candidum</i>) asook die imazalil-weerstandbiedende <i>Penicillium populasie</i> .	100 – 150 mℓ	Doop vrugte vir 3 – 5 minute so gou as moontlik ná oes. Gebruik hoër dosis onder toestande wat lei tot hoë siektedruk. Hou SPOREKILL® konsentrasie soos aanbeveel deur gebruik te maak van " SPOREKILL® Test Kit".
Sitrus Boord toediening	Swartvlek veroorsaak deur <i>Phyllosticta citricarpa</i>	Tenkmengsel 100 mℓ PLUS	Swartvlek Dien vier bespuitings voorkomend toe met 25 – 30 dae spuit

(Om die koper en mankoseb ^a dosisse toegedien per sitrus boord te verlaag.) (NB: SPOREKILL [®] is nie effektief vir beheer van Swartvlek en Alternaria bruinvlek op sy eie nie.)	(Guignardia citricarpa) EN Alternaria bruinvlek veroorsaak deur Alternaria alternata	100 g mankoseb ^a OF 100 mℓ PLUS 100 g koperoksichloried ^a OF 100 mℓ PLUS 100 g koperhidrosied ^a [Moet nie pH-buffers in koperbevattende tenkmengsels gebruik nie.]	intervalle. Eerste toediening moet voor 15 Oktober geskied. Verseker deeglike bedekking van beide blaar- en vrug-oppervlaktes met hoë volume toediening. Alternaria Bruinvlek Begin toediening tydens eerste groei-stuwung en herhaal elke 30 dae tot en met oes. Verseker deeglike bedekking van beide blaar- en vrugoppervlaktes met hoë volume toediening. Die aantal toedienings (op tot 7) is onderhewig aan die weersomstandighede gedurende Februarie – April. Tydens nat omstandighede is ekstra toedienings nodig om infeksies te onderdruk.
Sitrus Stam- en takbehandeling	Phytophthora stam- en tak kanker (Phytophthora citrophthora)	100 mℓ PLUS 200 g captab ^a	Dien toe ná oes deur gerigte bespuiting van stam en onderste besmette takke met handspruit of rugsakspruit. Gebruik 1 – 2 ℓ spuitmengsel per boom en moenie vrugte raak spuit indien teenwoordig. Herhaal behandeling elke 3 maande. Let wel: Die siekte sal nie beheer word in bome met stamme wat alreeds 60 % of meer geringeleer is deur die patogeen nie.
Soet Rissies	Poeieragtige meeldou (Leveillula sp.)	100 mℓ	Dien SPOREKILL [®] voorkomend toe, met intervale van 7 dae. Onder toestande van hoë siektedruk, sluit 'n sistemiese swamdoder in die spuitprogram in. Dien 'n minimum van 500 mℓ SPOREKILL [®] /ha toe. Verseker deeglike bedekking van loof, bo-, sowel as onderkant van blare. Moenie meer as 6 keer op vrugte toedien nie.
Soet Rissies Na-oes behandeling	Sagtevrot (Pectobacterium carotovorum), verhoed infeksie van vrugte in was water.	100 mℓ	Behandel vir 3 minute in was water. Hou SPOREKILL [®] konsentrasie soos aanbeveel deur gebruik te maak van "SPOREKILL [®] Test Kit". Vervang oplossing sodra dit vuil is. Vrugte met beserings (gaatjies en krake) moet nie behandel word nie.
Steenvrugte	Perske krulblaar (Taphrina deformans)	100 mℓ Spuite Volume 1200 – 3000 ℓ/ha	Dien SPOREKILL [®] voorkomend toe van ogie-swelstadium tot vrugset in 7 dae intervale. Moenie meer as 5 keer toedien nie. SPOREKILL [®] kan in 'n tenk mengsel toegedien word saam met thiram 750 g/kg óf 'n geregistreerde koper bevattende swamdoder.
Tamaties	Poeieragtige meeldou (Leveillula taurica)	100 mℓ	Dien SPOREKILL [®] voorkomend toe, met intervale van 7 dae. Onder toestande van hoë siektedruk, sluit 'n sistemiese swamdoder in die spuitprogram in. Dien 'n minimum van 500 mℓ SPOREKILL [®] /ha toe. Verseker deeglike bedekking van loof, bo-, sowel as onderkant van blare. Moenie meer as 4 keer op vrugte toedien nie. SPOREKILL [®] bespuitings kan die aanvang van laatroes (Phytophthora infestans) vertraag.
Tamaties Na-oes behandeling	Suurvrot, veroorsaak tydens wasproses in dompeltente deur Geotrichum sp.	150 mℓ	Doop vrugte vir 3 – 5 minute in dompeltent. Hou SPOREKILL [®] konsentrasie soos aanbeveel deur gebruik te maak van "SPOREKILL [®] Test Kit". Vervang oplossing sodra dit baie vuil is
Uie en Knoffel	Alternaria vlek (Alternaria porri) EN Botrytis spp.	100 mℓ	Dien SPOREKILL [®] voorkomend toe, met intervale van 7 dae. Onder toestande van hoë siektedruk, sluit 'n sistemiese swamdoder in die spuitprogram in. Dien 'n minimum van 500 mℓ SPOREKILL [®] /ha toe. Verseker deeglike bedekking van loof, bo-, sowel as onderkant van blare. Moenie meer as 5 keer toedien nie.
Wingerd Voortplantingsmateriaal in kwekerye	Infeksie van wingerd voortplantingsmateriaal deur terugsterwingspatogene soos Phaeomoniella chlamydospora, Phaeoacremonium, Botryosphaeria en Phomopsis spp.	150 mℓ	Onderstok en Bo-stok entjie behandeling Onmiddellik <u>na</u> insameling en verwerking en <u>voor</u> koelopberging week vir 1 uur in SPOREKILL [®] oplossing. Na koelopberging, week vir 10 minute een dag voor enting. Hierdie behandeling kan ook in afgekoelde water na die warmwater behandeling gedoen word. Voor-plant behandeling Na kallusvorming en direk voor plant doop vir 5 sekondes in SPOREKILL [®] oplossing. Algemene ontsmetting Vir ontsmetting van enting gereedskap, tafels en werksoppervlaktes, enting-skuur, kalluskiste, ens. Vir beste resultate, was oppervlaktes eers skoon voor ontsmetting en hou dan nat vir 10 minute.
Wyndruiwe (NB: SPOREKILL [®] is nie effektief vir beheer van donsige skimmel op sy eie nie.)	Donsige skimmel veroorsaak deur Plasmopara viticola.	Tenkmenngsel 100 mℓ PLUS 100 g mankoseb ^a OF 100 mℓ PLUS 250 g koperoksichloried ^a OF 100 mℓ PLUS 250 mℓ koperammonium-asetaat ^a	Voor Blom Dien eerste bespuiting toe wanneer jong lote 'n lengte van 10 cm bereik het. Herhaal met intervale van 7 – 10 dae, afhangende van weerstoestand. Dien toe as 'n hoë volume bespuiting teen 500 – 700 ℓ spuitmengsel per hektaar. Blomtyd tot 80 % kappiesval Dien slegs toe as blomperiode langer as 14 dae is. Dien toe as hoë volume bespuiting teen 750 – 1000 ℓ spuitmengsel per hektaar. Na Blom Dien twee (2) verdere bespuitings toe met intervale van 7 – 14 dae, afhangende van weerstoestand. Dien toe as 'n hoë volume

		[Moet nie pH-buffers in koperbevattende tenkmengsels gebruik nie.]	bespuiting teen 1000 – 1500 ℓ spuitmengsel per hektaar.
Wortels en Witwortels Voor-oes blaar bespuiting	Poeieragtige meeldou (<i>Erysiphe heraclei</i>)	100 mℓ	Dien voorkomend toe of sodra eerste simptome van siekte waargeneem word. Herhaal met intervalle van 7 – 10 dae, afhangende van siektedruk. Dien toe as 'n hoë volume bespuiting teen 300 – 500 ℓ spuitmengsel per hektaar afhangende van plant grootte. Verseker deeglike bedekking van alle bogrondse loof (blare).

SpkISA/NAM/BOTACT36-017

^aGebruik slegs produkte saam met **SPOREKILL**® wat gereistreer is teen die spesifieke siekte.

Captab 500 g/kg WP

Mancozeb 800 g/kg WP

Copper oxychloride 850 g/kg WP

Copper hydroxide 770 g/kg WP

Copper ammonium acetate 316 g/ℓ SL

Thiram 750 g/kg

SPOREKILL® is 'n gereistreerde handelsmerk van ICA Laboratories (Pty) Ltd.